

1 **ABSTRACT**

2 A unified in-building communication method in a communication system connected to a
3 public land mobile network (PLMN), a public switched telephone network/integrated services
4 digital network (PSTN/ISDN), and an Internet protocol (IP) network is disclosed. The method
5 comprises setting a common cell area such that a wireless public or wireless in-company
6 communication service is available in a prescribed local area; and connecting a mobile switching
7 center (MSC) to the PLMN, using a registered mobile terminal as an extension telephone in the
8 common cell area, and bypassing an unregistered mobile terminal, so that the PLMN can share a
9 base station. The registered mobile terminal communicates with a wire extension terminal or a
10 wireless extension terminal, and the registered mobile terminal wirelessly receives a data service
11 through the IP network. The wireless in-building communication service of the present invention
12 is performed in a single cell so that a handoff does not occur. The wireless in-building
13 communication service of the present invention is performed such that, even for the same service
14 provider, when the registered mobile terminal moves out of the common cell and moves into the
15 PLMN and vice versa, the handoff does not occur.